



National Transportation Safety Board Aviation Incident Final Report

Location:	BUFFALO, NY	Incident Number:	NYC92IA035
Date & Time:	11/21/1991, 1609 EST	Registration:	N146CA
Aircraft:	SAAB-FAIRCHILD SF-340A	Aircraft Damage:	Minor
Defining Event:		Injuries:	29 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Scheduled		

Analysis

THE FLIGHT CREW DETECTED VIBRATION COMING FROM THE RIGHT PROPELLER AND MADE A DECISION TO SHUT THE ENGINE DOWN. DURING THE SHUTDOWN PROCESS THE PROPELLER SEPARATED FROM THE AIRPLANE. EXAMINATION OF BOTH PORTIONS OF THE FAILED PROPELLER SHAFT REVEALED THE SHAFT FAILED DUE TO FATIGUE. METALLURGICAL EXAMINATION FOUND A SLAG INCLUSION JUST BELOW THE FRACTURE SURFACE. THIS DEFECT OCCURRED DURING THE MELTING OF THE ORIGINAL INGOT.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be:
A FATIGUE FRACTURE ON THE PROPELLER SHAFT, THAT ORIGINATED AT A SUBSURFACE SLAG INCLUSION, WHICH REMAINED IN THE MATERIAL USED TO MANUFACTURE THE SHAFT.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: DESCENT - NORMAL

Findings

1. (C) REDUCTION GEAR ASSY, PROPELLER SHAFT - FATIGUE
2. (C) INADEQUATE QUALITY CONTROL - MANUFACTURER
3. (C) REDUCTION GEAR ASSY, PROPELLER SHAFT - FAILURE, TOTAL

Factual Information

Pilot Information

Certificate:	Airline Transport	Age:	38, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	07/02/1991
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	10000 hours (Total, all aircraft), 3000 hours (Total, this make and model), 7500 hours (Pilot In Command, all aircraft), 140 hours (Last 90 days, all aircraft), 80 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	SAAB-FAIRCHILD	Registration:	N146CA
Model/Series:	SF-340A SF-340A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	340A-146
Landing Gear Type:	Retractable - Tricycle	Seats:	36
Date/Type of Last Inspection:	11/15/1991, Continuous Airworthiness	Certified Max Gross Wt.:	28000 lbs
Time Since Last Inspection:	40 Hours	Engines:	2 Turbo Prop
Airframe Total Time:	6698 Hours	Engine Manufacturer:	GE
ELT:	Installed, not activated	Engine Model/Series:	CT7-5A2
Registered Owner:	WILMINGTON TRUST COMPANY	Rated Power:	1735 hp
Operator:	COM AIR INC.	Operating Certificate(s) Held:	Commuter Air Carrier (135)
Operator Does Business As:		Operator Designator Code:	COMA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BUF, 724 ft msl	Distance from Accident Site:	26 Nautical Miles
Observation Time:	1550 EST	Direction from Accident Site:	78°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	20 Miles
Lowest Ceiling:	Broken / 2100 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	120°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	8° C / 5° C
Precipitation and Obscuration:			
Departure Point:	CINCINNATI, OH (CVG)	Type of Flight Plan Filed:	IFR
Destination:	TORONTO, CD (YYZ)	Type of Clearance:	IFR
Departure Time:	1450 EST	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Minor
Passenger Injuries:	26 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	29 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	Robert L Hancock	Report Date:	08/13/1993
Additional Participating Persons:	DON ELAM; WASHINGTON, DC ROBERT RECCHIUTI; EVENDALE, OH SVEN ERIK JEPPESEN; SWEDEN, PAUL CARVALHO; EAST WINDSOR, CT		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).